

CLAIMS

We claim:

1. A system for receiving a programming signal containing an embedded address, the address identifying a source of at least one online information segment related to the programming signal, the system comprising:

a receiver for receiving a programming signal and the embedded address, the address identifying the source of the online information segment which relates to the programming signal;

an address extractor which extracts the address from the programming signal;

a web browser; and

a processor which automatically directs the web browser to establish a communications link with the online information source identified by the address, whereby the processor retrieves the online information segment from the online information source via the communications link.

2. A system as described in claim 1, wherein the system is provided in at least one device selected from the group consisting of: a cable box, a satellite receiver, a television, a hand held computer, a personal computer, and a VCR.

3. A system as described in claim 1, wherein the system is provided in a wired device.

4. A system as described in claim 1, wherein the system is provided in a wireless

device.

5. A system as described in claim 1, wherein the system further comprises:  
a first presentation device for presenting the programming signal; and  
a second presentation device for presenting the online information segment.

- 5 6. A system as described in claim 1, wherein the system further comprises:  
a display monitor for presenting the programming signal, comprising a video signal or  
an audio signal, concurrently with the online information segment.

7. A system as described in claim 6, wherein the programming signal comprises  
the video signal and the video signal and the online information segment are presented on the  
display monitor in a picture-in-picture format.

8. A system as described in claim 6, wherein the programming signal comprises  
the video signal and the video signal is presented on one half and the online information  
segment is presented on the opposite half of a split screen display format.

9. A system as described in claim 6, wherein the programming signal comprises  
the video signal and the video signal is presented in a first window and the online information  
segment is presented in a second window in a multiple window display format.

10. A system as described in claim 6, wherein the programming signal comprises

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the video signal and the video signal and the online information segment are presented on the display monitor.

11. A system as described in claim 6, wherein the programming signal comprises the audio signal and the audio signal and the online information segment are presented on an audio reproduction device.

12. A system as described in claim 1, wherein the source of the online information segment is the Internet.

13. A system as described in claim 1, wherein the source of the online information segment is selected from the group consisting of: the Internet, an intranet, a private network, and a public network.

14. A system as described in claim 1, wherein the programming signal further comprises at least one audio or video signal selected from the group consisting of: animation, text, graphics, multimedia, slow frame video, data, music, dialogue, video stills, and a sequence of individual frames.

15. A system as described in claim 1, wherein the programming signal is received from a source selected from the group consisting of: a cable head-end, an Internet content server, a broadcaster, a wireless service source, a telephone circuit, and a satellite broadcast operations center.

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16. A system as described in claim 1, wherein the programming signal is a presentation of a live event.

17. A system as described in claim 1, wherein the programming signal is a presentation of a pre-recorded program.

18. A system as described in claim 1, wherein the programming signal includes an advertisement.

19. A system as described in claim 1, wherein the address is an Internet URL, the URL identifying the online information source.

20. A system as described in claim 1, wherein the received online information segment includes at least one presentation form selected from the group consisting of: text, graphics, animation, individual video frames, data, video stills, slow frame video, video, audio and multimedia.

21. A system as described in claim 1, further comprising an electronic mail interface, the electronic mail interface allowing a user to send and receive electronic messages.

22. A system as described in claim 1, wherein the programming signal includes a news program and the online information segment contains additional information related to

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the news program.

23. A system as described in claim 1, wherein the programming signal includes an advertisement and the online information segment contains additional information related to the advertisement.

5 24. A system as described in claim 1, wherein the programming signal includes a sports program and the online information segment contains additional information related to the sports program.

25. A system as described in claim 1, wherein the programming signal includes an entertainment program and the online information segment contains additional information related to the entertainment program.

26. A system as described in claim 1, further comprising a data management storage device wherein information about a user is stored in the data management storage device.

15 27. A system as described in claim 26, wherein the user information includes user clicks made by the user on a user interface while using an online service source.

28. A system as described in claim 26, wherein information on a plurality of users is stored in the data management storage device.

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29. A system as described in claim 26, wherein the programming signal is selected, at least in part, based on the user information.

30. A system as described in claim 26, wherein the online information segment is selected, at least in part, based on the user information.

5 31. A system as described in claim 26, wherein the address is selected, at least in part, based on the user information.

32. A system as described in claim 1, wherein the programming signal contains at least one program selected from the group consisting of: a sports program, an advertisement, a motion picture program, a game show program, a video program, a live program, an audio program, a music video program, a pre-recorded program, a sitcom program, a non-  
10 commercial program, and a news program.

33. A system as described in claim 1, wherein the online information segment relates to a polling question.

34. A system as described in claim 1, further comprising a chat interface which  
15 facilitates interactive communications between a user and the online information source or a second user.

35. A system as described in claim 26, wherein the programming signal received

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comprises a sporting event; the user information identifies the user as a potential fan of the sporting event; and the address identifies the online information source as one wherein the online information segment relates to the sporting event.

36. A system as described in claim 26, wherein the programming signal received  
5 comprises a sporting event; the user information identifies the user as a potential player of the sport presented in the sporting event; and the address identifies the online information source as one wherein the online information segment relates to the sporting event.

37. A system as described in claim 26, wherein the programming signal received  
10 comprises a sporting event; the user information identifies the user as a potential fan of a specific team or player presented in the sporting event; and the address identifies the online information source as one wherein the online information segment relates to the sporting event.

38. A system as described in claim 26, wherein the user information contains  
15 information selected from the group consisting of: the geographic location of the user, clicks made by the user on a user interface while using an on line service source, user viewing habits, and demographics of the user.

39. A system as described in claim 26, wherein the data management storage  
device is located at a location selected from the group consisting of: a user station, a personal computer, a cable box, a cable head-end, a satellite receiver, an intranet site, a public network,

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a private network, and an Internet site.

40. A system as described in claim 26, wherein the programming signal contains a predetermined advertisement and wherein selection of the predetermined advertisement is based at least in part on the user information.

5 41. A system as described in claim 26, wherein at least one online information segment contains an advertisement and wherein the advertisement is selected at least in part based on the user information.

42. A system as described in claim 26, wherein the programming signal contains a graphics segment and wherein the graphics segment is selected at least in part based on the user information.

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~~43.~~ A system for presenting online information obtained from an online information source identified by an address, the online information related to a programming signal, the system comprising:

a receiver which receives the programming signal and the address;

15 a browser which automatically establishes a communications link with the online information source using the address which is provided to the browser by the receiver, the communications link facilitating a push transfer of the online information from the online information source; and

a presentation device which presents to a user the online information obtained from



the online information source via the communications link.

44. A system as described in claim 43, wherein the address is received via a transmission medium selected from the group consisting of: the Internet, an intranet, terrestrial broadcast, satellite broadcast, cable, fiber optics, a wireless connection, a telephone network, a public network, and a private network.

45. A system as described in claim 43, wherein the system further comprises a storage device for storing at least one of the group consisting of: the programming signal, the address, and the online content.

46. A system as described in claim 45, wherein the storage device further comprises at least one selected from the group consisting of: a digital versatile disk, a storage device provided with a computer workstation or set top box, a magnetic storage device, RAM, ROM, an optical storage device, a DVD, and a CD ROM.

47. A system as described in claim 43, wherein the presentation device further presents the programming signal to the user.

48. A system as described in claim 43, wherein the programming signal further comprises a presentation of a live event.

49. A system as described in claim 43, wherein the programming signal further

comprises a presentation of a pre-recorded program.

50. A system as described in claim 43, wherein the programming signal includes an advertisement.

51. A system as described in claim 43, wherein the programming signal includes an audio program.

52. A system as described in claim 43, wherein the address is received independent of the programming signal.

53. A system as described in claim 43, wherein the address is received via the Internet.

54. A system as described in claim 43, wherein the programming signal further comprises a video signal and the address is embedded in the video signal.

55. A system as described in claim 54, wherein the address is embedded in the video signal so as not to interfere with the presentation of the video signal.

56. A system as described in claim 55, wherein the address is embedded in a vertical blanking interval provided in the video signal.

64. A system as described in claim 43, further comprising an electronic mail interface, the electronic mail interface allowing the user to send and receive messages from

1. **NAME** \_\_\_\_\_  
 2. **ADDRESS** \_\_\_\_\_  
 3. **CITY** \_\_\_\_\_  
 4. **STATE** \_\_\_\_\_  
 5. **ZIP** \_\_\_\_\_  
 6. **PHONE** \_\_\_\_\_  
 7. **DATE** \_\_\_\_\_  
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 219. **PRINT CITY** \_\_\_\_\_  
 220. **PRINT STATE** \_\_\_\_\_

others.

65. A system as described in claim 64, wherein at least one of the users is the online information source.

66. A system as described in claim 43, wherein the programming signal includes a news program and the online content contains additional information related to the news program.

67. A system as described in claim 43, wherein the programming signal includes an advertisement and the online content contains additional information related to the advertisement.

68. A system as described in claim 43, wherein the programming signal includes a sports program and the online content contains additional information related to the sports program.

69. A system as described in claim 43, wherein the programming signal includes an entertainment program and the online content contains additional information related to the entertainment program.

70. A system as described in claim 43, wherein the programming signal includes a music video and the online content contains additional information related to the music video.

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71. A system as described in claim 43, wherein the system is provided on a device selected from the group consisting of: a wireless device, a cable box, a satellite receiver, a television, a VCR, a hand held computer, and a personal computer.

5 72. A system as described in claim 43, wherein the system comprises a wired device.

73. A system as described in claim 43, wherein the system comprises a wireless device.

74. A system as described in claim 43, further comprising a data management storage device, wherein information about the user is stored in the data management storage device.

75. A system as described in claim 74, wherein the user information contains information on clicks made by the user on a user interface while using an online service source.

15 76. A system as described in claim 74, wherein information on clicks made by a plurality of users on respective user interfaces is stored in the data management storage device.

77. A system as described in claim 74, wherein the programming signal is

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selected, at least in part, based on the user information.

78. A system as described in claim 74, wherein the online information source is selected, at least in part, based on the user information.

79. A system as described in claim 74, wherein the address is selected, at least in part, based on the user information.

80. A system as described in claim 74, wherein the data management storage device is local to the receiver.

81. A system as described in claim 43, wherein the online information relates to at least one selected from the group consisting of: a sports program, an advertisement, a motion picture program, a game show program, a video program, a live program, an audio program, a music video program, a prerecorded program, a sitcom program, a non-commercial program, and a news program.

82. A system as described in claim 43, wherein the online information relates to a polling question.

83. A system as described in claim 74, wherein the programming signal received comprises a sporting event; the user information identifies the user as a potential fan of the sporting event; and the address identifies the online information source as one wherein the

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online information segment relates to the sporting event.

84. A system as described in claim 74, wherein the programming signal received comprises a sporting event; the user information identifies the user as a potential player of the sport presented in the sporting event; and the address identifies the online information source as one wherein the online information segment relates to the sporting event.

85. A system as described in claim 74, wherein the programming signal received comprises a sporting event; the user information identifies the user as a potential fan of a specific team or player presented in the sporting event; and the address identifies the online information source as one wherein the online information segment relates to the sporting event.

86. A system as described in claim 74, wherein the user information contains information selected from the group consisting of: the geographic location of the user, clicks made by the user on a user interface while using an on line service source, user viewing habits, and demographics of the user.

87. A system as described in claim 74, wherein the data management storage device is located at one of the locations selected from the group consisting of: a user station, a cable box, a satellite receiver, a cable head-end, an intranet site, a public network, a private network, and an Internet site.

88. A system as described in claim 74, wherein the programming signal contains a predetermined advertisement and wherein selection of the predetermined advertisement is based, at least in part, on the user information.

89. A system as described in claim 74, wherein the online information contains an advertisement and wherein the advertisement is selected, at least in part, based on the user information.

90. A system as described in claim 74, wherein the programming signal contains a graphics segment and wherein the graphics segment is selected, at least in part, based on the user information.

91. A computer readable medium containing instructions for receiving and displaying online information signals containing online information related to a programming signal by:

receiving an address identifying a source of online information containing the online information related to the programming signal;

automatically sending message requests to the online information source specified by the address; and

automatically retrieving the online information from the online information source in response to the message requests.

92. A computer readable medium as described in claim 91, wherein the

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programming signal comprises an audio signal, the address is embedded within the audio signal, and the instructions further comprise extracting the address from the audio signal.

93. A computer readable medium as described in claim 92, wherein the address is embedded within the audio signal so as to not interfere with the presentation of the audio signal.

94. A computer readable medium as described in claim 91, wherein the programming signal comprises a video signal, the address is embedded within the video signal, and the instructions further comprise extracting the address from the video signal.

95. A computer readable medium as described in claim 94, wherein the address is embedded within the video signal so as to not interfere with the presentation of the video signal.

96. A computer readable medium as described in claim 94, wherein the address is embedded within the video signal in at least one element of the video signal selected from the group consisting of: a vertical blanking interval, a horizontal blanking interval, a side-band, and a sub-carrier.

97. A computer readable medium as described in claim 91, wherein the instructions further comprise receiving the programming signal concurrently with the address.

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98. A computer readable medium as described in claim 91, wherein the instructions further comprise receiving the programming signal after receiving the address.

99. A computer readable medium as described in claim 91, wherein the instructions further comprise receiving the programming signal before receiving the address.

5 100. A computer readable medium as described in claim 91, wherein the programming signal comprises at least one selected from the group consisting of: animation, text, graphics, multimedia, slow frame video, music, data, video stills, dialogue, and a sequence of individual frames.

101. A computer readable medium as described in claim 91, wherein the address is received from a source selected from the group consisting of: a cable head-end, an Internet content server, a terrestrial broadcaster, a wireless service source, a telephone circuit, and a satellite broadcast operations center.

102. A computer readable medium as described in claim 91, wherein the online information is related to a live event.

15 103. A computer readable medium as described in claim 91, wherein the online information is related to a prerecorded program.

104. A computer readable medium as described in claim 91, wherein the online

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information is related to an advertisement.

105. A computer readable medium as described in claim 91, wherein the online information is related to an audio program.

106. A computer readable medium as described in claim 91, wherein the online information is related to a news program.

107. A computer readable medium as described in claim 91, wherein the online information is related to a music video.

108. A computer readable medium as described in claim 91, wherein the computer readable medium is utilized in at least one device selected from the group consisting of: a cable box, a satellite receiver, a television, a hand held computer, a personal computer, a wireless device, and a VCR.

109. A computer readable medium as described in claim 91, wherein the instructions further comprise storing information about a user in a data management storage device.

110. A computer readable medium as described in claim 109, wherein the user information includes user clicks made by the user on a user interface while using an online service source.

111. A computer readable medium as described in claim 109, wherein the programming signal is selected, at least in part, based on the user information.

112. A computer readable medium as described in claim 109, wherein the online information is selected, at least in part, based on the user information.

113. A computer readable medium as described in claim 109, wherein the address is selected, at least in part, based on the user information.

114. A computer readable medium as described in claim 109, wherein the online information segment relates to at least one selected from the group consisting of: a sports program, an advertisement, a motion picture program, a game show program, a video program, a live program, an audio program, a music video program, a prerecorded program, a sitcom program, a non-commercial program, and a news program.

115. A computer readable medium as described in claim 109, wherein the online information relates to a polling question.

116. A computer readable medium as described in claim 91, wherein the instructions further comprise establishing a chat interface, the chat interface facilitating interactive communications between the user and at least one of the group consisting of: the online information source and a second user.

117. A computer readable medium as described in claim 91, wherein the instructions further comprise initializing an electronic mail interface, the electronic mail interface facilitating the sending and receiving of electronic messages to others.

118. A computer readable medium as described in claim 109, wherein the user information contains information selected from the group consisting of: the geographic location of the user, clicks made by the user on a user interface while using an on line service source, user viewing habits, and demographics of the user.

119. A computer readable medium as described in claim 109, wherein the data management storage device is located at one of the locations selected from the group consisting of: a user station, a cable box, a cable head-end, a satellite receiver, an intranet site, a public network, a private network, and an Internet site.

120. A computer readable medium as described in claim 109, wherein the programming signal contains a predetermined advertisement and wherein selection of the predetermined advertisement is based, at least in part, on the user information.

121. A computer readable medium as described in claim 109, wherein the address is selected, at least in part, based on the user information.

122. A computer readable medium as described in claim 109, wherein the online

information contains an advertisement and wherein the advertisement is selected, at least in part, based on the user information.

123. A computer readable medium as described in claim 109, wherein the programming signal contains a graphics segment and wherein the graphics segment is selected, at least in part, based on the user information.

124. A receiver system for receiving video programming and network-delivered on-line information segments having content related to the video programming, comprising:

- a first receiver for receiving a signal carrying the video programming; and
- a processor coupled to a network for receiving at least one address in respective specified timing relationship with the video programming, and using the at least one address for retrieving from at least one server on the network the on-line information segments,

wherein the video programming and the on-line information segments are presented for viewing in respective predetermined timing relationship.

125. A system as described in claim 124, wherein each one of the at least one address received by the processor includes an associated time indicia for controlling when each one of the at least one address is to be used for retrieving respective ones of the on-line information segments, so that the on-line information segments are presented for viewing in respective predetermined timing relationship with the video programming.

126. A system as described in claim 124, wherein the signal is encoded to carry the

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at least one address in respective specified timing relationship with the video programming, and further comprising a decoder for extracting the at least one address from the encoded signal, and for providing the at least one address extracted from the encoded signal to the processor.

5           127. A system as described in claim 124, wherein the network comprises the Internet; the at least one address comprises at least one uniform resource locator; the at least one network server comprises at least one Internet web site; and the processor receives the at least one uniform resource locator and includes a web browser responsive to the at least one uniform resource locator for retrieving over the Internet from the at least one Internet web site at least one web page comprising the on-line information segments, the at least one web page and the video programming being presented for viewing in respective predetermined timing relationship.

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10           128. A system as described in claim 124, wherein the first receiver causes the video programming carried by the signal to be presented on an audio visual monitor, and the  
15           processor causes the on-line information segments to be presented on a display.

          129. A system as described in claim 124, wherein the video programming comprises education subject matter.

          130. A system as described in claim 124, wherein the video programming comprises entertainment matter.

131. A system as described in claim 124, wherein the video programming comprises advertising subject matter.

132. A system as described in claim 124, wherein the on-line information segments include advertising subject matter.

5 133. The system of claim 124, wherein the online information segments include a request for viewer response and wherein the network has a two-way capability enabling the viewer to enter information in response to the request included in the on-line information segments.

134. A system as described in claim 127, wherein the at least one web page includes a request for viewer response and wherein the viewer is enabled to send information over the Internet in response to the request.

135. A system as described in claim 133, wherein the video programming comprises advertising subject matter, and the on-line information segments includes a request which enables the viewer to enter response information related to the advertising subject matter of the video programming.

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136. A system as described in claim 134, wherein the video programming comprises advertising subject matter, and the at least one web page including a request for viewer response enables the viewer to enter response information related to the advertising

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subject matter of the video programming.

137. A system as described in claim 133, wherein the on-line information segments including a request for viewer response comprises advertising subject matter and enables the viewer to enter response information concerning the advertising subject matter of the on-line information segments.

138. A system as described in claim 134, wherein the at least one web page including a request for viewer response comprises advertising subject matter and enables the viewer to enter response information concerning the advertising subject matter of the at least one web page.

139. A system as described in claim 133, wherein the on-line information segments including a request for viewer response comprises an offer to sell a product or a service, and enables the viewer to enter response information for making a purchase of the product or the service.

140. A system as described in claim 134, wherein the at least one web page including a request for viewer response comprises an offer to sell a product or a service, and enables the viewer to enter response information for making a purchase of the product or the service.

141. A system as described in claim 124, wherein the first receiver and the

processor are included in a single receiving device.

142. A system as described in claim 1141, wherein the single receiving device is a personal computer.

143. A system as described in claim 141, wherein the single receiving device is a cable television set-top box.

144. A system as described in claim 141, wherein the single receiving device is a satellite broadcast receiver.

145. A system as described in claim 141, wherein the network is the Internet; the at least one network address comprises at least one uniform resource locator; the at least one server comprises at least one Internet web site; and the on-line information segments comprise at least one web page retrievable over the Internet from the at least one Internet web site using the at least one uniform resource locator, the processor having a web browser responsive to the at least one uniform resource locator for retrieving over the Internet from the at least one Internet web site the at least one web page, and being coupled to a display for presenting the at least one web page in respective predetermined timing relationship with the presentation of the video programming on the display.

146. A method for receiving video programming and network-delivered on-line information segments having content related to the video programming, comprising the steps

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of:

receiving a signal carrying the video programming;

receiving, in respective specified timing relationship with the video programming  
carried by the signal, at least one address for retrieving over a network the on-line  
5 information segments from at least one server on the network;

wherein the video programming and the on-line information segments are presented  
for viewing in respective predetermined timing relationship.

147. A method as described in claim 146, wherein each one of the at least one  
address is received with an associated timing indicia for controlling when each one of the at  
least one address is to be used for retrieving respective ones of the on-line information  
segments so that the on-line information segments are presented for viewing in respective  
predetermined timing relationship with the video programming.

148. A method as described in claim 146, wherein the network is the Internet; the at  
least one address comprises at least one uniform resource locator; the at least one server  
15 comprises at least one Internet web site; and the on-line information segments comprise at  
least one web page retrievable over the Internet from the at least one Internet web site using  
the at least one uniform resource locator.

149. A method as described in claim 146, wherein the video programming  
comprises education subject matter.

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150. A method as described in claim 146, wherein the video programming comprises entertainment subject matter.

151. A method as described in claim 146, wherein the video programming comprises advertising subject matter.

5 152. A method as described in claim 146, wherein the on-line information segments include a request for viewer response, and wherein the network has a two-way capability enabling the viewer to enter information in response to an on-line information segment.

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10 153. A method as described in claim 152, wherein the network is the Internet; the at least one network address comprises at least one uniform resource locator; the at least one server comprises at least one Internet web site; and the on-line information segments comprise at least one web page retrievable over the Internet from the at least one Internet web site using the at least one uniform resource locator, the at least one web page including a request for viewer response, and wherein the viewer is enabled to enter response information in response to the request, the response information being sent over the Internet to a  
15 respective one of the at least one Internet web site providing the at least one web page including the request.

154. A method as described in claim 152, wherein the video programming comprises advertising subject matter and the request for viewer response is related to the advertising subject matter of the video programming.

155. A method as described in claim 153, wherein the video programming comprises advertising subject matter and the request for viewer response is related to the advertising subject matter of the video programming.

156. A method as described in claim 152, wherein the on-line information segments  
5 contains advertising subject matter and enables the viewer to enter response information relating to the advertising subject matter of the at least one information segment.

157. A method as described in claim 153, wherein the at least one web page contains advertising subject matter and enables the viewer to enter response information relating to the advertising subject matter of the at least one web page.

158. A method as described in claim 152, wherein the on-line information segments  
10 comprise an offer to sell a product or a service and enables the viewer to enter response information for making a purchase of the product or the service.

159. A method as described in claim 153, wherein the at least one web page  
15 comprises an offer to sell a product or a service and enables a viewer to enter response information for making a purchase of the product or the service.

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